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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/568,063	07/17/2006	Manfred Heim	HEIM3001/JJC	7469
23364 7590 04/28/2009 BACON & THOMAS, PLLC 625 SLATERS LANE FOURTH FLOOR ALEXANDRIA, VA 22314-1176				
EXAMINER				
JOLLEY, KIRSTEN				
ART UNIT		PAPER NUMBER		
1792				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/568,063

Applicant(s)

HEIM ET AL.

Examiner

Kirsten C. Jolley

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-64 is/are pending in the application.
- 4a) Of the above claim(s) 1-30, 46-64 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 31-34, 39-45 is/are rejected.
- 7) ☒ Claim(s) 35-38 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date 9/17/07
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restriction

I. Applicant's election with traverse of Group II, claims 31-45, in the reply filed on January 14, 2009 is acknowledged. The traversal is on the ground(s) that the technical features of the claims exist in common between the two sets of claims to thereby link them in a manner satisfying the requirements of Rule 475. Applicant states that it is clearly evident that independent claims 1 and 31 are drawn to a single general inventive concept, namely a special technical feature of "a printed layer" or "a printing ink" which has "dispersion particles with monomodal or oligomodal size distribution." This is not found persuasive because the lack of unity of invention is found *a posteriori*, i.e., after taking the prior art into consideration. If it can be established that the common technical feature is known, there is a lack of unity *a posteriori* since the common technical feature is not a technical feature that defines a contribution over the prior art. See MPEP 1850. In the case of the instant invention, a printing ink having dispersion particles with bimodal size distribution is known from the cited prior art of Heider et al. (see claim 16 and Abstract). While the prior art of Kitagawa et al. was cited to demonstrate the common technical feature in the restriction requirement, upon further consideration, the Heider et al. reference more clearly demonstrates the known common technical feature to Groups I and II.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 33-34 and 43 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 33, line 2, claim 34, line 4, and claim 43, line 3, the use of the term “mainly” renders the claims vague and indefinite because it is not clear what is meant by the term or if the phrase that follows the term is required or not or to what extent.

Claim Objections

4. Claim 31 is objected to because of the following informalities: In line 5 of claim 31, the phrase “with the help of” is objected to because it is not clear in what way the printing method “helps” to apply the spacer layer. The claim would be more definite and more clear if the phrase “with the help of” is replaced with --by--. Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 31-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bonkowski et al. (US 6,761,959) in view of Heider et al. (US 2004/0177789).

With respect to independent claim 31, as well as claims 33, Bonkowski et al. discloses a method for manufacturing a security element for security papers or documents which contains a thin-layer element with color shift effect, which has a reflection layer, an absorber layer, and a spacer layer disposed therebetween, whereby the spacer layer is applied by a printing method. Bonkowski et al. lacks a teaching of a printing ink having dispersion particles with monomodal or oligomodal size distribution.

Heider et al. is cited for its teaching of spherical absorption pigment particles having bimodal size distribution which may be used in security printing inks (Abstract and paragraphs [0001], [0055], and [0065]). Heider et al. teaches that its pigments have good optical properties and high hiding power, tinting strength, color purity, and easy dispersibility (page 1). Additionally, Heider et al. teaches that its pigments can advantageously be used in blends with effect pigments (paragraph [0058]). Similarly, Bonkowski et al. teaches that "In addition to the [color-shifting] flakes, additives can be added to the inks or paints to obtain desired color shifting results" (col. 8, lines 2-9). It would have been obvious for one having ordinary skill in the art, having seen the references of Bonkowski et al. and Heider et al. in combination, to have added the pigments of Heider et al. (which are inclusive of particles having bimodal size distribution) to the printing ink for forming the spacer layer of Bonkowski et al. with the expected result of achieving combined and enhanced color effects in the ink layer. The test of obviousness is not express suggestion of the claimed invention in any or all references but rather what the references taken collectively would suggest to those of ordinary skill in the art presumed to be

familiar with them. *In re Rosselet*, 347 F.2d 847, 146 USPQ 183 (CCPA 1965); *In re Hedges*, 783 F.2d 1038.

As to claim 32, Bonkowski et al. teaches that the spacer layer is applied by gravure or flexographic printing (col. 8, lines 35-40).

As to claim 34, the Examiner notes that due to a combination of gravity and surface tension, the pigment particles in the printing ink would settle and be substantially arranged in a monolayer.

As to claims 39-40, Bonkowski et al. teaches application of layers in the order of absorber layer, spacer layer, and reflection layer, or vice versa, onto a carrier having an areal diffraction structure (Figures 1B and 7 and col. 4, lines 25-31).

As to claim 41, Bonkowski et al. teaches that the absorber layer is vapor deposited (col. 4, lines 65-67).

As to claims 42-44, Bonkowski et al. does not teach the application of a second printing ink on the second side of the reflection layer. However it is the Examiner's position that it would have been obvious to one having ordinary skill in the art to have printed a second spacer layer on the other side of the reflection layer, in addition to a second absorber layer, with the expectation of producing a two-sided security element.

As to claim 45, Bonkowski et al. does not disclose printing of its spacer layer in reel-fed fashion. However it is the Examiner's position that it would have been obvious to one having ordinary skill in the art to have performed the method of Bonkowski et al. in view of Heider et al. on a roll, in reel-fed fashion, with the expectation of successful results in order to make the

process continuous and since the carrier substrates taught by Bonkowski et al. are usually provided in rolls.

Allowable Subject Matter

7. Claims 35-38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The closest prior art of Bronkowski et al. and Heider et al. do not teach or fairly suggest the inclusion of a heating step during which at least one constituent of the printing ink melts, particularly the dispersion particles.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kirsten C. Jolley whose telephone number is 571-272-1421. The examiner can normally be reached on Monday to Tuesday and Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kirsten C Jolley/
Primary Examiner, Art Unit 1792

kcj